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ABSTRACT

The Fort Worth Trimester Plan (Intensified Learning Plan) employes three terms of approximately 60 days, each to replace a 90-day semester. To maintain an equivalent amount of classroom time, class periods are extended to 80 minutes at the high school level. The plan was implemented at one high school and three middle schools in 1970-71. The evaluative data provided in this report were gathered primarily from the three high schools in which the trimester plan was newly implemented in 1971-72. Information was gathered from students and teachers as well as through the use of tests. Data for comparative purposes were collected from three semester schools. Evaluation focused on several concerns that emerged from the first-year assessment: academic achievement, effects of a lapsed trimester between courses, teaching styles of trimester teachers, the extent to which students chose early graduation over an extended curriculum, teacher fatigue, student attentiveness during the longer period, and overall teacher assessment of the trimester plan. Results are summarized by concerns examined. (Author/KM)

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TM 003 223

TRIMESTER ASSESSMENT II

1971-72

Prepared for

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Fort Worth Independent School District

by

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November, 1972

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INTRODUCTION

The Trimester Plan was implemented in the Fort Worth Independent School District at one high school and three middle schools for the 1970-71 school year. An evaluation of the Plan was prepared by the Department of Research and Evaluation (1) in the summer of 1971. The present report provides evaluative data gathered during the second year, focusing on aspects that continued to be perceived as questionable after the first year or for which the data was inconclusive. Data were gathered only from the three high schools newly adopting the Trimester Plan in order that a direct comparison of results might be made with data collected in the first-year assessment. Middle schools were not re-examined because of the consistent and favorable nature of the first-year data.

Description of the Trimester Plan

The Fort Worth Trimester Plan (Intensified Learning Plan) employs three terms of approximately sixty days, each to replace a ninety-day semester. In order to maintain an equivalent amount of classroom time class periods are extended to eighty minutes at the high school level*.

Teachers at the trimester school generally taught eleven courses during the school year, three courses during each of two trimesters and four courses during one trimester.

The respective concluding dates for each trimester during 1971-72 were November 21 (fall trimester), March 1 (winter trimester), and May 31 (spring trimester).

*65 minutes at the middle school level

Information provided in the first-year assessment, but not to be repeated in the present report, included:

1) a description of the middle school trimester plan;

2) general objectives of the trimester plan;

and 3) review of the literature relative to both trimester and four-quarter plans.

The Fort Worth Trimester Plan differs from the Four-Quarter Plan mandated by the State Legislature (H.B. 1078) in an important manner. The State Plan (2, pp. 2-4) does not require the subject content previously covered in a school year to be completed in two trimesters (i.e., two 60-day periods) and, therefore, does not require an extended class period (3, p. 2, Criteria #1).

Evaluation Procedures

The present assessment centered on the list of critical areas identified in the first-year study as those in need of further examination (1, p. 63).

Data gathering activities focused on student achievement. Other areas examined included

.... effects of lapsed trimester and/or summer between courses

.... changes in teaching styles stimulated by an extended class period

.... the extent to which students will choose an extended curriculum over early graduation

.... teacher fatigue and student attentiveness.

Specific instruments included classroom tests and teacher opinionnaires. In order to make a direct comparison of teacher responses obtained during

the first-year assessment and those of the second assessment, items on the teacher opinionnaire were repeated. Classroom history, mathematics, and chemistry tests were administered to students completing similar courses under both the trimester and semester plans.

Three high schools operating on the traditional plan were selected for comparative purposes as required. These schools served students who were generally similar in terms of ethnicity and achievement. Characteristics of these schools are shown in Table 1. The aggregate matching is somewhat deficient in terms of two measures: the comparative schools reveal a higher academic measure and lack Mexican-American students. These deficiencies were dealt with statistically with the analysis of covariance and by eliminating Mexican-American student scores from the data analysis.

The areas examined, the relative hypotheses, the data gathering, and the analyses of data procedures are detailed in Exhibit A.

Table 1: Trimester and Comparative Semester Schools

Trimester Schools					Comparative Schools				
School	N 1971-72	ADA 1970-71 1st Per.	ITBS Gr. 9 1970-71	Ethnicity (1971-72)	School	N 1971-72	ADA 1970-71 1st Per.	ITBS Gr. 9 1970-71	Ethnicity (1971-72)
"A"	1818	.90	6.6	Black 83% Brown 2% White 15%	"A"	1506	.92	6.4	Black 100%
"B"	1357	.91	7.4	Black 22% Brown 31% White 47%	"B"	2377	.94	8.0	Black 16% Brown 3% White 81%
"C"	871	.91	7.4	Black 7% Brown 26% White 67%	"C"	1101	.93	7.9	Black 13% Brown 4% White 83%
Aggregate	4046	.91	7.0		Aggregate	4984	.93	7.4	
				Black 46% Brown 17% White 37%					Black 41% Brown 2% White 57%

EVALUATION DESIGN: TRIMESTER ASSESSMENT II
DEPARTMENT OF RESEARCH/EVALUATION

Concerns	Hypotheses	Procedures for Data Collection	Statistical Treatment of Data
Student Academic Achievement	1. A significant majority of experienced classroom teachers will express belief that students' academic achievement was maintained under the trimester plan.	Teacher Opinionnaire	Significance of differences in proportions of responses.
	2. The distribution of letter grades of trimester students will not differ significantly from those earned by students at the same schools in the previous year under the semester plan.	Printouts of letter grades earned by students will be obtained from Data Processing for the 1971-72 fall and the 1970-71 fall semester for each trimester school. Percentages of letter grades will be tabulated and compared for the two years.	Chi Square Test of "Goodness of Fit".
	3. The mean raw score of trimester students on a general measure of skills and concepts developed in Algebra III will not differ significantly from that attained by similar students under the semester plan.	Tests will be administered by external personnel to all fall trimester classes completing Algebra III at three trimester schools and to a sample of classes completing the course at comparative semester schools.	Analysis of covariance, holding scholastic ability scores constant. Scores for two ability levels will also be examined.
	4. The mean score of trimester students on a general measure of skills and concepts developed in Chemistry I will not differ significantly from that attained by similar students under the semester plan.	Tests will be administered by external personnel to all fall trimester classes completing Chemistry I at three trimester schools and to a sample of classes completing the course at comparative semester schools.	Analysis of covariance, holding scholastic ability scores constant. Scores for two ability levels will also be examined.

Concerns	Hypotheses	Procedures for Data Collection	Statistical Treatment of Data
Student Academic Achievement (continued)	5. The mean raw score of trimester students on a general measure of knowledges and concepts developed in American History I will not differ significantly from that attained by similar students under the semester plan.	Tests will be administered by external personnel to a sample of fall trimester classes completing American History I at three trimester schools and to a sample of classes completing the course at comparative semester schools.	Analysis of covariance, holding scholastic ability scores constant. Scores for two ability levels will also be examined.
	6. Mean Scholastic Aptitude Test scores of 1969-70 graduates will not significantly differ from those attained by 1971-72 graduates with two years of experience in the trimester plan.	Available SAT scores of 1969-70 graduates will be compared. The comparison will consider standardized achievement or aptitude scores obtained prior to or upon entrance into high school.	Analysis of covariance, holding a pre-measure or ability or performance constant.
Early Graduation or Extended Curriculum	7. The proportion of 1971-72 graduates at the two-year trimester school earning more credits than necessary for graduation will significantly exceed that of 1969-70 graduates.	Transcripts of 1969-70 and 1971-72 graduates will be examined.	Significance of differing proportions.
	8. The proportion of seniors planning early graduation in 1972-73 will not differ significantly from that graduating early in 1971-72.	Students' spring plans for 1972-73 school year will be examined.	Significance of differing proportions.
Lapsed-Trimester	9. The amount of time allowed to lapse between courses will not significantly affect the report card grades earned by students in the final term of a continuous four-term subject.	Proportion of letter grades earned in the final phase of selected subjects will be obtained.	Chi Square Test of "Goodness of Fit"

Concerns	Hypotheses	Procedures for Data Collection	Statistical Treatment of Data
Teaching Styles	10. Trimester teachers will utilize more varied teaching strategies and media in learning activities than will teachers in comparative semester schools.	A checklist of classroom activities, including the amount of time spent at each, will be completed by selected students at trimester and comparative semester schools.	Significance of differences of proportions of time spent at each activity.
Teacher Fatigue and Student Attentiveness	11. A significant majority of teachers will assert that the trimester plan has not increased daily fatigue.	Teacher Opinionnaire	Significance of differences of proportions of responses.
	12. A significant majority of teachers will assert that the trimester plan has not increased student inattentiveness.	Teacher Opinionnaire	Significance of differences in proportions of responses.
Summary Rating of Trimester by Teachers	13. A significant majority of teachers will rate the trimester plan satisfactory.	Teacher Opinionnaire	Significance of differences in proportions of responses.

PRESENTATION OF EVALUATIVE DATA

As indicated previously in the present report (1, p. 2) the focus on this study was on student academic achievement under the Trimester Plan. It will be seen that the first six hypotheses relate to this concern.

Concern: Academic Achievement

Hypothesis 1. A significant majority of experienced classroom teachers will express belief that students' academic achievement was maintained under the trimester plan.

On an opinionnaire mailed to their home address, all experienced teachers at the three trimester schools were asked three questions relative to the classroom achievement of their students. These questions and the teachers' responses are indicated in Table 2.

Table 2: Teacher Opinion Regarding Student Achievement

Question	Teachers' Responses		
1. Are you covering as much of the course content during trimesters as you normally do in semesters?	No 39%*		Yes 61%*
2. Do you feel that your students are learning as much and developing as much in-depth understanding during the trimesters as they normally do during semesters?	No 26%*	Uncertain 26%	Yes 48%*
3. Do you have any evidence to support answers to #1 and/or #2?	No 16%*		Yes 84%*

*Differ significantly (P = .05).

Responses to question #2 indicate that teachers, as a group, continue to be uncertain as to whether students are learning as much in fewer 80 minute periods as previously in a greater number of 55 minute periods. Approximately one-half (48 per cent) of the teachers contended that students were learning as much; approximately one-half (52 per cent) of the teachers contended that students were not or that they were uncertain. The proportion of teachers, however, contending that students were learning as much (48 per cent) was significantly (P = .01) greater than that portion contending that they were not (26 per cent). The total weight of the responses to question #2 was slightly, thus, in favor of the trimester plan.

Responses to question #3 indicated that teachers were responding to questions #1 and #2 on the basis of evidence rather than on an intuitive basis.

Finding

The hypothesis is rejected. Forty-eight per cent of the teachers expressed the view that students were learning as much under the trimester plan. The remaining teachers were equally divided between expressing uncertainty or that students were not learning as much.

Opinions by Departments

Although teachers were instructed not to sign their names, eighty-six per cent revealed instructional areas. This information allowed an examination of the responses by subject field. These data are presented in Table 3.

Table 3: Teacher Opinion Regarding Student Achievement by Department

Question		English	History	Math	Science	Ind. Arts	Bus. Ed.	Voc. (Home Ec.)	Misc.	Unknown	Total
Question 1	No	38%	33%	64%	50%	-	75%	33%	11%	42%	39%
	Yes	62%	67%	36%	50%	100%	25%	67%	89%	58%	61%
Question 2	No	25%	-	55%	50%	-	-	-	11%	42%	26%
	Uncertain	12%	83%	9%	25%	-	50%	33%	33%	25%	26%
	Yes	63%	17%	36%	25%	100%	50%	67%	56%	33%	48%

English Teachers

The majority (62 per cent) of English teachers contended that they were covering as much content and that students were learning as much. A sizeable proportion (38 per cent), however, disagreed.

History Teachers

The majority of History teachers (67 per cent) contended that they were covering as much content but were uncertain as to whether students were learning as much.

Mathematics Teachers

Mathematics teachers revealed substantial concern about the trimester plan. A majority (64 per cent) contended that they were not covering as much content. Slightly more than one-half of the mathematics teachers also asserted that students were not learning as much, while nine per cent were uncertain.

Science Teachers

Science teachers also revealed considerable concern about the trimester plan. One-half of the teachers contended that they were not covering as much content and students were not learning as much. Only one-fourth expressed confidence that student achievement was maintained.

Industrial Arts

Industrial Arts teachers expressed unanimous support for the trimester plan.

Business Education

Business Education teachers expressed some concern about the trimester plan. The majority (75 per cent) felt that they were not covering as much content; however, one-half of the teachers indicated belief that student achievement was maintained.

Miscellaneous Teachers

Most teachers (89 per cent) in miscellaneous fields (i.e., Music, ROTC, P.E. and Health, Spanish, and Art) expressed confidence that they were covering content as well, and slightly more than one-half asserted that student achievement was maintained.

Unidentified Teachers

It might be hypothesized that teachers who did not reveal their teaching area would respond quite negatively. This expectation was not completely realized. Those few teachers who felt too threatened by the opinionnaire to indicate their teaching area tended to respond only slightly more negatively to the trimester plan than the others.

Summary of Subject Field Responses

For convenience of interpretation and reporting, the responses by subject area teachers are arbitrarily categorized as follows:

Expressing substantial satisfaction with student achievement ....

Industrial Arts teachers

Expressing general satisfaction with student achievement ....

English teachers

Vocational-Homemaking teachers

Teachers of miscellaneous areas (Art, Music, P.E., etc.)

Expressing some concern about student achievement ....

History teachers

Business Education teachers

Expressing considerable concern about student achievement ....

Mathematics teachers

Science teachers

Treatment of Topics in Selected Subject Areas by Trimester and Semester Teachers

To further examine the extent to which trimester teachers were able to treat subject area content during the long-period short-term schedule, questionnaires were mailed to all teachers of Algebra III, America History I, and Chemistry I during the fall. Consultants in each field designed, for their separate fields, the topics, units, chapters, etc. which represented the usual range of material treated during a semester term. These were listed on the questionnaire, and teachers were asked to rate their treatment of each particular unit, chapter, or topic as 1) not treated, 2) lightly treated, or 3) accorded in-depth treatment. Ratings, thus provided, were tabulated separately for trimester and semester teachers.

Treatment of Topics by Algebra III Teachers

Questionnaires were sent to thirty-one teachers of Algebra III during the fall. Twenty-four returned the questionnaire; however, six failed to identify their school as a trimester or semester school. The data analyzed thus were provided by twenty-four teachers.

Ratings by Algebra III teachers are presented in Table 4.

Nineteen topics were listed. Trimester teachers rated their treatment higher on six topics, semester teachers rated their treatment higher on nine topics, and treatment was equally rated on four topics. No significant difference was found in overall average treatment of topics.

Only one trimester teacher and no semester teachers treated topics in Chapter VII.

These data indicate that trimester teachers of Algebra III are treating topics as effectively as semester teachers.

Table 4: Treatment* of Chapters and/or Topics by Trimester and Semester Algebra III Teachers

Chapter and/or Topic	Average Treatment*	
	Trimester Teachers	Semester Teachers
Chapter I Mathematical Statements and Proofs		
Statements and Sets	2.67	2.67
Axioms and Proofs	2.00	2.73
Chapter II Solving Equations and Problems		
Solving Equations and Problems	3.00	2.93
Order in the Set of Real Numbers	2.67	2.67
Chapter III Sequences of Real Numbers		
Arithmetic Sequences and Series	2.33	2.87
Geometric Sequences and Series	2.33	2.87
Infinite Sequences and Series	2.00	2.13
Chapter IV Linear Functions and Relations		
Specifying Relations and Functions	3.00	2.93
Graphs of Linear Equations and Inequalities	3.00	3.00
Lines and their Equations	2.67	3.00
Linear Functions and Relations	2.33	2.87
Chapter V Systems of Linear Open Sentences		
Systems of Equations in Two Variables	2.67	3.00
Systems of Inequalities in Two Variables	2.67	2.40
Systems of Equations in Three Variables	1.33	2.40
Chapter VI Polynomials and Rational Algebraic Expressions		
Polynomials and Factoring	2.33	2.67
Rational Algebraic Expressions	1.67	1.40
Chapter VII Radicals, Irrational Numbers and Quadratic Equations		
Radicals and Irrational Numbers	1.33	1.00
Working with Radicals	1.33	1.00
Radicals and Quadratic Equations	1.00	1.00
Mean of All Rating	2.23**	2.40**

* Rating on a 3 point scale: 1 = not treated; 2 = lightly treated; 3 = in-depth treatment

** Overall ratings do not differ significantly.

Treatment of Topics by Chemistry I Teachers

Questionnaires were sent to fifteen teachers of Chemistry I. Twelve questionnaires were completed and used in the analysis.

Chemistry I teachers' responses are reported in Table 5.

Treatment of fourteen topics were reported by teachers. Six topics were reportedly treated in greater depth by trimester teachers, seven topics were reportedly treated more favorably by semester teachers, and one topic reportedly received equal treatment. Overall average treatments of topics by the two sets of teachers did not differ significantly.

The final chapter (Chapter IV) contained four topics. Although generally several semester teachers reported treatment of these topics, none of the topics was reported treated by trimester teachers.

The scale used to assess treatment was:

1 = no treatment

2 = moderate treatment

3 = substantial treatment

Table 5: Treatment of Chemistry I Topics by Trimester and Semester Teachers

Section and Topic	Average Treatment	
	Trimester Teachers	Semester Teachers
I. Introduction		
1. Experimentation & Chemistry	2.50	2.70
2. Mathematics Concepts	3.00	2.90
3. Matter	3.00	2.60
II. Male Concept and Stoichiometry		
4. Chemical Symbols and Formulas	3.00	3.00
5. The Male	3.00	2.90
III. Organization of Chemistry		
6. Atomic Structure	2.50	2.40
7. Locating the Electron	2.50	2.20
8. Organization of the Elements	2.50	2.30
9. The Chemical Bond	2.00	1.80
10. Nuclear Chemistry	1.00	1.10
IV. Physical State of Matter		
11. Kinetic Theory	1.00	1.40
12. Solids and Liquids	1.00	1.60
13. Crystals	1.00	1.20
14. Gases	1.00	1.60
Average	2.07*	2.12*

* Do not significantly differ (t = .17).

The average overall rating of the treatment by trimester and semester teachers of topics covered did not differ significantly; however, a few semester teachers treated topics in Unit IV whereas no trimester teacher did.

Treatment of Topics by American History I Teachers

Questionnaires were sent to fifty-three teachers who taught American History I during the fall. Fourteen questionnaires were not returned, two were returned too late for tabulation, and six did not indicate whether their school was organized on a semester or trimester plan. Therefore, results are reported for thirty-one teachers; ten trimester teachers and twenty-one semester teachers.

The questionnaire dealt with teacher-treatment of material from two sources commonly utilized: the currently adopted textbook (America: A Modern History of the U. S.) and an out-of-adoption textbook (History of a Free People). Teachers also had an opportunity to assess use of other material. Treatment was rated on a 3-point scale: 1 = not treated; 2 = treated lightly; 3 = treated in depth.

Results are reported in Table 6.

Table 6: Treatment of American History I Material
by Trimester and Semester Teachers

Chapter** Number and Topic	Average Rating of Treatment							
	America: A Modern History of the U.S.		History of a Free People		Other Material		Aggregate Average	
	Tri. Tchrs.	Sem. Tchrs.	Tri. Tchrs.	Sem. Tchrs.	Tri. Tchrs.	Sem. Tchrs.	Tri. Tchrs.	Sem. Tchrs.
21. A Progressive Age	3.00	2.71	1.30	1.52	1.40	1.95	1.90	2.06
22. Progressivism in the White House	2.90	2.38	1.30	1.67	1.40	1.62	1.87	1.89
23. Progressive Foreign Policy	2.60	2.19	1.30	1.71	1.20	1.62	1.70	1.84
24. World War I	2.90	2.67	1.70	1.67	1.80	2.48	2.13	2.27
25. The 1920's	2.90	2.57	1.50	1.57	1.60	2.14	2.00	2.09
26. Boom, Bust, and the Government's Role	2.80	2.52	1.60	1.48	1.50	2.19	2.00	2.06
27. The New Deal: A Positive Force in the Economy	2.50	2.19	1.70	1.71	1.90	2.24	2.03	2.05
28. The New Deal: Struggle for Reform	2.60	2.19	1.50	1.57	1.80	1.86	2.00	1.87
29. America Faces a World Crisis	2.70	2.48	1.60	1.67	1.80	1.95	2.03	2.03
30. World War II: The Home Front	2.40	1.95	1.70	1.57	1.60	2.05	1.90	1.86
31. World War II: Strategy & Diplomacy	1.05	2.24	1.70	1.52	1.50	2.10	1.42	1.95
32. The Truman Administration	2.00	1.67	1.60	1.33	1.50	1.76	1.70	1.59
33. The Eisenhower Years	2.10	1.48	1.60	1.38	1.40	1.52	1.70	1.46
34. The New Frontier	1.05	1.62	1.50	1.29	1.70	1.52	1.42	1.48
35. Reform, War	2.10	1.57	1.00	1.24	1.70	1.48	1.60	1.43
Averages	2.37	2.16	1.51	1.53	1.59*	1.90*	1.83	1.86

* Significantly different (P = .001).
** Chapter titles refer to adopted text.

Neither the treatment accorded the currently adopted text nor the out-of-adoption text by trimester teachers (2.37 and 1.51) significantly differed from that reported by semester teachers (2.16 and 1.53). Reported use of other sources for data significantly (P = .001) favored semester teachers. The overall reported treatment of material by trimester teachers (1.83) did not significantly (t = .40) differ from that reported by semester teachers (1.86).

In terms of the fifteen individual topics, six reportedly were accorded greater treatment by trimester teachers, nine by semester teachers, and one received equal treatment.

The data indicate that trimester teachers generally treated topics as well as semester teachers, with the possible exception of non-textbook sources.

Summary Statement About Treatment of Course Content

Self-reports by teachers relative to the extent to which they were able to treat course content indicated that treatment by trimester and semester teachers was very similar with two possible exceptions:

1) Chemistry I teachers who taught under the semester plan were more likely to treat topics in Unit IV;

and 2) American History I teachers who taught under the semester plan were more likely to use sources other than the current and out-of-adoption textbooks.

The data relative to treatment by algebra and chemistry teachers must be interpreted with particular caution as no over three trimester teachers were usually teaching in Algebra III and Chemistry I.

Hypothesis 2. The mean raw score of trimester students on a measure of skills and concepts developed in Algebra III will not significantly differ from that attained by similar students under the semester plan.

In order to compare the effectiveness of instructing Algebra III students under the trimester plan and the semester plan, tests covering the course material were constructed by the mathematics consultant and administered to trimester and semester students after the completion of approximately ninety-two per cent of the course. Tests were administered by representatives of the Research Department to all Algebra III students at the three trimester schools and at the three comparative schools. Students in both groups were allowed fifty-five minutes to respond to test items.

Although experimental and comparative students were generally similar in terms of academic achievement, socio-economic status, and ethnicity, scholastic ability scores were obtained from school records so that test scores could be adjusted for group differences in aptitude. The analysis of covariance statistical treatment was applied to hold scholastic aptitude scores constant.

One class was tested in each of the three trimester schools; a total of five classes were tested at control schools.

Results are shown in Table 7.

Table 7: Algebra III Test Scores of Trimester and Semester Students

Treatment Group	N	Mean Academic Potential Score	Mean Raw Scores on an Algebra III Test	
			Actual Mean Score	Adjusted Mean Score
Trimester Students	58	108*	14.4	14.2**
Semester Students	103	105*	15.1	15.2**

* These scores were not highly predictive of Algebra III test scores ($r = .40$) and were not significantly different ($t = 1.18$).
** These means are not significantly different ($P = .08$).

The difference between the adjusted test means of trimester students and semester students was not significant ($P = .08$). The actual mean scores were only slightly adjusted due to the poor predictive power of the academic potential scores ($r = .40$).

Students' test scores were also examined for effects of ethnicity. Although the mean scholastic aptitude score of black students was approximately eleven points below that of white students, their scores on the criterion test did not differ significantly ($P = .64$). This observation would restrict the use of scholastic ability scores as a means of screening minority students.

Finding

The hypothesis is accepted. Mean scores earned on an Algebra III test by trimester and semester students did not differ significantly.

Hypothesis 3. The mean raw score of trimester students on a measure of skills and concepts developed in Chemistry I will not differ significantly from that attained by similar students under the semester plan.

In order to compare the effectiveness of the trimester and the semester plans, tests measuring Chemistry I skills and understandings were developed by the consultant for science. This test was administered to both trimester and semester students after each group had completed approximately ninety-two per cent of the course. Tests were administerd to three trimester classes and to three semester classes at the comparative schools by representatives of the Research Department.

Scholastic ability scores of students in the classes were obtained and used to adjust test scores. Schools were generally matched on the basis of mean academic achievement, ethnicity, and socio-economic status. Informal teacher-matching was also managed with the aid of the consultant. Due to the lack of Mexican-American students in the control group, the scores of these students were not included in the analysis. Other students for whom academic potential scores were not available were also excluded from the analysis.

Results are shown in Table 8.

Table 8: Chemistry I Test Scores of Trimester and Semester Students

Treatment Group	N	Mean Academic Potential	Mean Chemistry Test Scores	
			Actual Mean	Adjusted Mean
Trimester Students	64	100.2*	10.91	10.97**
Semester Students	58	103.6*	10.15	10.09**

* Predictive power of academic potential scores was very low (r = .17); nevertheless, mean scores did not differ significantly.
** Neither actual nor adjusted scores differed significantly.

Neither actual nor adjusted mean test scores earned by trimester and semester students differed significantly. Adjustments to mean scores, to account for initial differences in scholastic ability scores of the two groups, did not make an appreciable change due to the poor predictability of the latter measures ($r = .17$). This finding is consistent with that reported in the analysis of Algebra III test scores and suggests that caution must be applied in using those types of measures for course placement and screening of all students. Scores also differed significantly by ethnicity, favoring white students ($P = .001$).

Finding

The hypothesis is accepted. Mean chemistry test scores of trimester and semester students did not differ significantly.

Hypothesis 4. The mean score of trimester students on a general measure of knowledges and concepts developed in American History I will not differ significantly from that attained by similar students under the semester plan.

In order to compare the effectiveness of the trimester and semester plans, tests measuring knowledges and concepts treated in American History I classes were developed by the consultant for social studies.

The test was administered to both trimester and semester students after each group had completed about ninety-two per cent of the course by representatives of the Research Department or the consultant for social studies. Tests were administered to seven classes in trimester schools and to seven classes in semester schools. The classes included were determined by an informal matching of teachers by the consultant.

Scholastic ability scores of students were obtained from school records for the purpose of adjusting test scores for group ability differences in

trimester and semester students. Due to the scarcity of Mexican-American students in the comparative schools, their scores were excluded from the data analysis. Also excluded from the analysis were test scores of students for whom scholastic ability scores were not available.

Results are shown in Table 9.

Table 9: American History I Test Scores of Trimester and Semester Students

Treatment Group	N	Mean Academic Potential	Mean History Test Scores	
			Actual Mean	Adjusted Mean
Trimester Students	81	97.2*	17.84*	17.94*
Semester Students	135	98.9*	18.61*	18.48*

* Pairs of mean scores did not differ significantly.

Trimester and semester students' adjusted mean test scores did not differ significantly ($P = .87$); nor did academic potential scores ($t = .79$). Academic potential scores correlated somewhat better with student success in history classes ($r = .51$) than in chemistry or algebra classes, probably because of the greater student heterogenity in the history classes.

Finding

The hypothesis is accepted. Mean history test scores of trimester and semester students did not differ significantly.

Hypothesis 5. The distribution of report card grades of trimester students will not differ significantly from those earned by students in the previous year under the semester plan.

In three of the four trimester high schools utilized for the present report, the scholastic population had undergone a marked change between

the 1970-71 and 1971-72 school years. At two schools, a large number of black students were bused in for the first time due to the closing of predominantly black high schools. At another, the proportion of students who were black had substantially increased. Changes in report card grades earned during the two school years would reflect this population change as well as the changeover from the semester to the trimester plan.

For this reason, a change in the distribution of report card grades was made only at the one remaining school where the scholastic population had been relatively stable.

Distributions of grades earned during the school year 1970-71 and 1971-72 are presented in Table 10.

Table 10: Report Card Grades Under the Trimester and Semester Plans at One Trimester School

	Proportion of Grades That Were ...				
	A	B	C	D	F
Spring Trimester, 1971-72	26%*	23%	22%*	19%	10%*
Spring Semester, 1970-71	22%*	24%	25%*	20%	8%*

*Differed significantly (P = .05).

Results of a Chi Square test indicated that the two distributions differed significantly (P = .01). Specifically, trimester students earned significantly (P = .001) more A's and significantly (P = .01) more F's than semester students. This finding must be interpreted with caution. A change in report card grades could be related to other variables other than the changeover from the semester plan to the trimester plan: changes in student population, changes in grading philosophy, etc. However, there is no evidence that these latter events were factors.

This apparent tendency of report card grades to polarize was also noted in the first-year assessment (1, p. 21).

Finding

The hypothesis is rejected for one school only. The distribution of report card grades earned under the trimester plan did differ significantly (P = .01) from that earned under the semester plan. Trimester students earned more A's and F's.

Hypothesis 6. The mean Scholastic Aptitude Test (SAT) score of 1971-72 graduates having had two years under the trimester plan will not differ significantly from that obtained by 1969-70 graduates.

The Scholastic Aptitude Test (SAT) is utilized by many colleges and universities as a screen for entering freshmen. Scores reflect the academic competence of the sample of students who chose to respond to the instrument.

For the purpose of making a comparison between seniors of 1969-70 and 1971-72, pre-high school measures of academic potential were obtained for both groups. These scores, from the Primary Mental Ability Test, administered in the seventh grade to both groups of students, were used to equate the academic potential of the two groups. This procedure allowed SAT scores of students of equal pre-high school potential to be compared.

The data are reported in Table 11.

Table 11: Scholastic Aptitude Test Scores of Semester-Experienced and Trimester-Experienced Students*

Treatment Group	N	Mean Scores	
		PMA (Grade 7)	Actual SAT (Seniors)
Trimester Students	162	114	926
Semester Students	208	112	923

*One year in semester plan; two final years in trimester plan.

Trimester students obtained a higher mean score (926) than did semester students (923). However, the higher mean seventh grade measure of academic potential predicted that the trimester group would score higher, and in fact, that the gap would be somewhat greater. Adjusted mean SAT scores were 916 and 930 respectively for the trimester and semester groups. Neither the adjusted nor actual mean SAT scores of the two groups differed significantly.

The previous discussion has related only to the average scores of each group. SAT scores earned by students at all ability levels are shown in Exhibit B. An examination of the graph of the two actual regression lines show a slight tendency for SAT scores of lower aptitude students to be improved under the trimester plan and a reverse tendency for higher aptitude students. It is to be noted, however, that these tendencies were identified statistically as chance fluctuations.

In order to further examine this chance variation, SAT scores of 1970 and 1972 graduates at two other high schools in similar socio-economic areas were obtained. SAT scores earned at these two schools by 1970 and 1972 seniors are shown in Exhibits C and D. Both graphs reflect a decrease

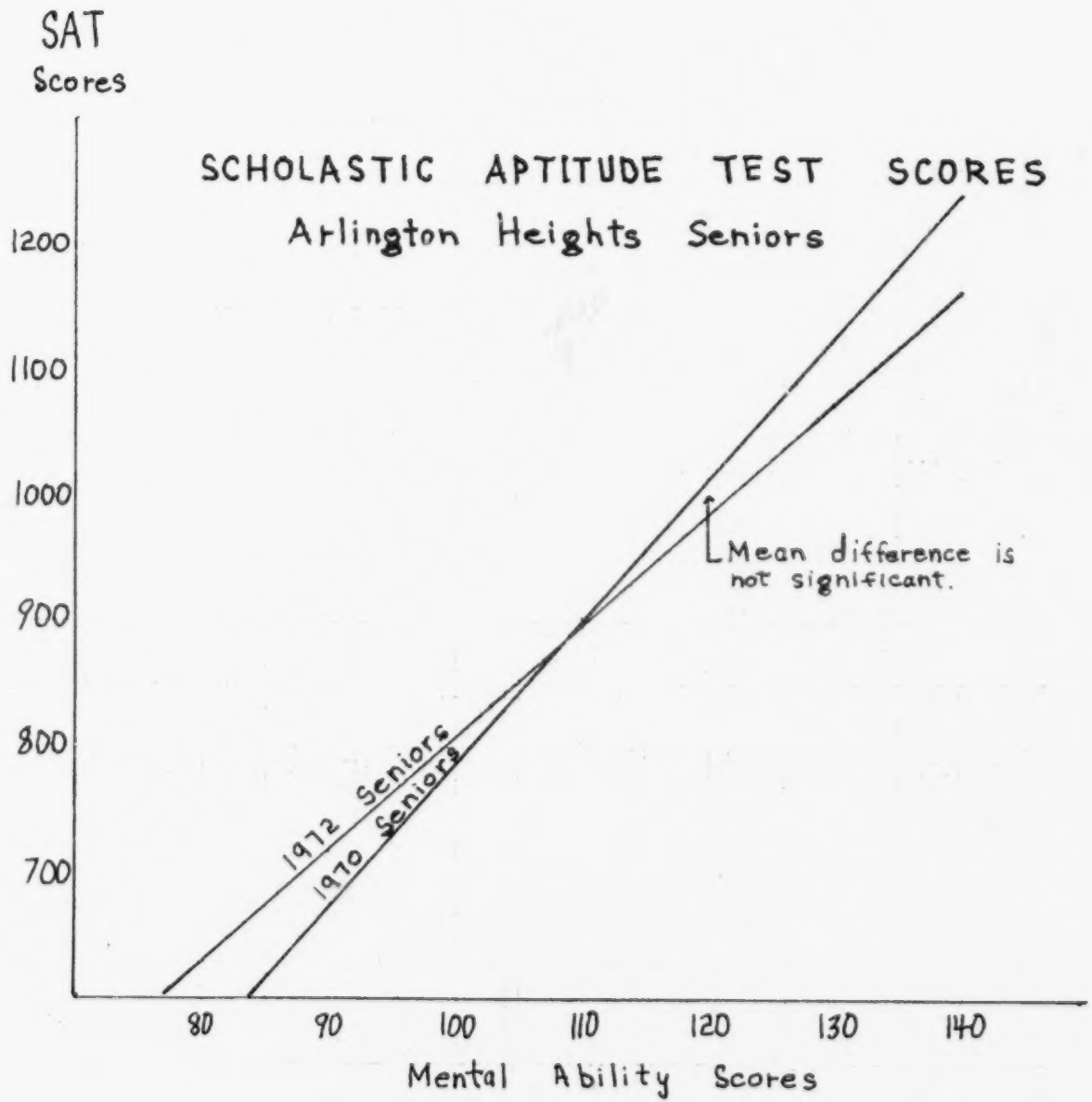
SAT
Scores
SCHOLASTIC APTITUDE TEST SCORES
Arlington Heights Seniors
1200
1100
1000
900
800
700
Mean difference is not significant.
1972 Seniors
1970 Seniors
80
90
100
110
120
130
140
Mental Ability Scores

EXHIBIT B

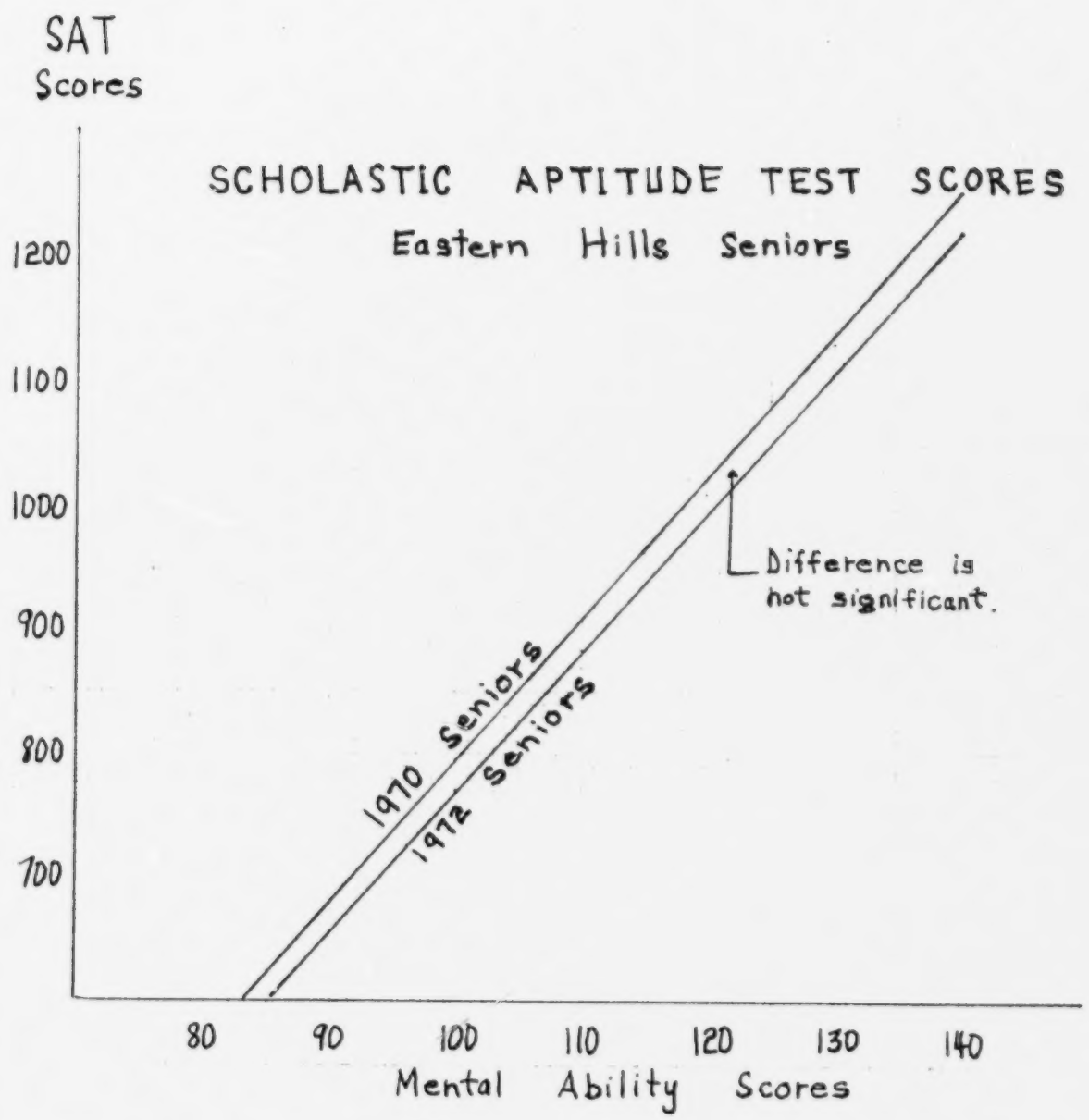
SAT
Scores
SCHOLASTIC APTITUDE TEST SCORES
Eastern Hills Seniors
1200
1100
1000
900
800
700
Difference is not significant.
1970 Seniors
1972 Seniors
80
90
100
110
120
130
140
Mental Ability Scores

EXHIBIT C

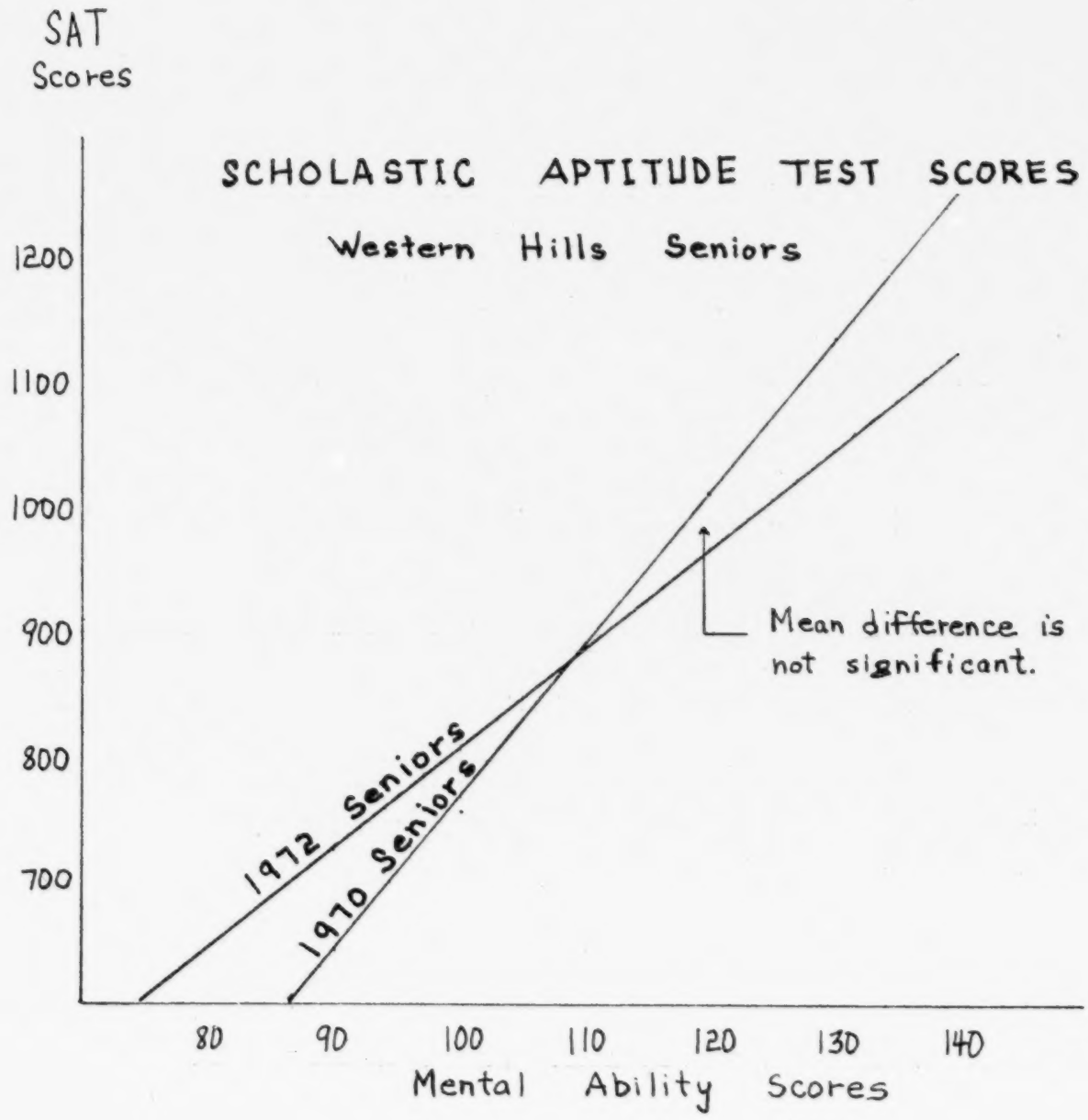
SAT
Scores
SCHOLASTIC APTITUDE TEST SCORES
Western Hills Seniors
1200
1100
1000
900
800
700
Mean difference is not significant.
1972 Seniors
1970 Seniors
80
90
100
110
120
130
140
Mental Ability Scores

EXHIBIT D

in SAT scores by ability levels in 1972 from those obtained in 1969. Thus, in comparing trimester SAT scores and semester SAT scores, the possibility of a phenomenon of a general decrease in SAT scores must be considered. Comparisons with data obtained at other schools is to some degree confounded by the administration to seventh graders in 1964-65 of two different academic ability tests.

Finding

The hypothesis is accepted. Scholastic Aptitude Test (SAT) scores of students experiencing two years of trimester organization and one year of the semester plan did not differ significantly from those earned by students with similar pre-high school ability under the semester plan.

Concern: Expanded Education or Early Graduation

Two hypotheses dealt with this concern: hypotheses 7 and 8.

Hypothesis 7. The proportion of 1971-72 graduates at the two-year trimester school earning more credits than necessary for graduation will significantly exceed that of 1969-70 graduates.

Trimester-experienced students had extra opportunities to earn credit through the plan's provision of three trimesters per year during which students could enroll in up to five courses per trimester. Two alternatives included early graduation or the taking of only a minimum class load per trimester. It was thought that an increase in the number of credits earned by 1971-72 graduates over that earned by 1969-70 graduates would be an indication that students were choosing an extended education rather than a minimum class load or early graduation.

Transcripts of 1969-70 and 1971-72 graduating seniors at the high school implementing the trimester plan for two years were examined. Number of total credits earned by the two classes were tabulated and compared. The 1969-70 seniors were the final group to earn credits under the semester plan at the high school; 1971-72 seniors had experienced two years at the high school under the trimester plan.

Proportions of 1969-70 and 1971-72 graduates earning designated numbers of credits are presented in Table 12.

Table 12: Credits Earned by 1969-70 and 1971-72 Graduates

Graduating Group	N	Proportions of Graduates Earning Designated Credits*					
		20-20.5	21-21.5	22-22.5	23-23.5	24-24.5	25-25 plus
1969-70 Graduates	500	54%	24%	10%	6%	3%	2%
1971-72 Graduates	528	58%	20%	9%	5%	2%	1%

*20 credits required for graduation

An application of the Chi Square Test of Independence indicated that differences in proportions were not significant.

Finding

The hypothesis is rejected. Proportions of semester graduates and trimester graduates earning extra credits during their high school experience did not differ significantly.

Hypothesis 8. The proportion of 1972-73 seniors planning to graduate after the fall or winter trimesters will not significantly differ from that proportion graduating at those times in 1971-72.

In order to assess the extent to which students chose early graduation over an expanded education, the number of seniors graduating early (after fall or winter trimester) was obtained for the first and second year of the trimester plan at one high school. These numbers are presented in Table 13. Plans of students at the other trimester schools are included.

Table 13: Number of Seniors Graduating After Fall and Winter Trimesters

School	1970-71			1971-72			1972-73*		
	Fall	Winter	Total	Fall	Winter	Total	Fall	Winter	Total
Arlington Hts.	14	37	(9%) 51	20	84	(18%) 104	30	65	(17%) 95
Diamond Hill	-	-	-	6	19	(16%) 25	8	19	(15%) 27
North Side	-	-	-	10	44	(20%) 54	6	57	(24%) 63
Polytechnic	-	-	-	17	50	(24%) 67	19	35	(17%) 54
Aggregate	-	-	-	53	197	(19.6%) 250	63	176	(18.2%) 239

*Estimates according to spring plans of students. It is expected that the actual number graduating will be greater.

Differences in proportions of students electing to graduate after the fall and winter trimesters did not significantly differ from 1971-72 to 1972-73. The finding was valid for all schools combined as well as for each school individually. The data did not include any juniors at Arlington Heights who might find it possible to eliminate their senior year.

Finding

The hypothesis accepted. The proportion of seniors choosing early graduation in 1971-72 (19.6%) did not differ significantly from that proportion (18.2%) planning early graduation during 1972-73.

Concern: Effect of Lapsed Trimesters

Two hypotheses relate to the concern, one at the high school level and one on the middle school level. The latter study was designed and implemented by Jack Ross, doctoral student at North Texas State University.

High School English Study

Hypothesis 9. The amount of time allowed to lapse between courses will not significantly affect the report card grades earned by students in the final term of a continuous four-term subject.

This study undertook to examine the effect of the combinations of trimesters and a summer period during which English 5, 6, 7, and 8 were studied over a two-year period. This examination was possible, of course, only at the high school concluding its second year under the trimester plan.

Nine possible combinations in which students could study the four English courses were identified. In terms of the trimesters allowed to intervene between the four courses, these are:

	1970-71 Lapse		1971-72 Lapse
Combinations #1	Fall	-	Winter
#2	Fall	-	Spring
#3	Winter	-	Winter
#4	Winter	-	Spring
#5	Fall	-	Fall
#6	Winter	-	Fall
#7	Spring	-	Winter
#8	Spring	-	Spring
#9	Spring	-	Fall

The foregoing nine combinations may be trichotomized into the following categories:

Category 1: Those combinations in which no more than one trimester or one summer intervened consecutively: combinations #1, #2, #3, and #4.

Category 2: Those combinations in which one trimester intervened in conjunction with the summer period: combinations #5, #6, #7, and #8.

Category 3: The one combination in which two back-to-back trimesters plus the summer period intervened.

Obviously, Category 1 represents the least possible lapse between courses, Category 2 represents a greater lapse, and Category 3 represents the greatest possible lapse.

Report card grades earned by all students in English 5 (the initial course) and English 8 (the terminal course) were obtained and translated to grade point averages. English 8 grades of students in each of the three categories were compared on the basis of their English 5 grades (i.e., the English 8 grades of students in each category who made identical grades in English 5 were placed in contrast).

Results, in terms of grade point averages, are presented in Table 14.

Table 14: Final English Grades* Earned by Students with Varying Lapses of Time Between Courses

Intervening Periods between English 5 and English 8	No. of Students	Grade Point Averages			
		Eng. 5 GPA	Eng. 8 GPA	Actual Change in GPA	Adjusted Eng. 8 GPA
One Trimester or Summer	190	2.489	2.489	No Change	2.522**
One Trimester plus Summer	180	2.656	2.617	- .039	2.535**
Two Trimesters plus Summer	43	2.465	2.535	+ .070	2.584**

* Students who made an F at any reporting period were not included in the data analysis as the computer cannot read "0"; however, a separate analysis by a desk computer that included "F" supported the results reported in Table 10.

** Differences were not significant (F = .0996).

The data in the table indicate that the length of the period allowed to intervene between courses had no effect on earned grades in the final course in the sequence.

Adjusted GPA's, comparing English 8 GPA's of students earning similar grades in English 5, did not differ significantly (F = .10). Adjusted GPA's increased slightly with increase in the length of intervening periods. The few (N = 43) students who allowed two trimesters plus the summer period to jointly intervene earned slightly higher English 8 grades than their counterparts who allowed less time to lapse between courses.

Finding

The hypothesis is accepted. The final report card grades of students allowing different amounts of time to lapse between courses did not significantly (F = .10) differ.

Middle School Study

Jack Ross (NTSU doctoral student) examined the effect on middle school students who allowed a trimester to intervene in their study of mathematics during the school year.

Students were able to study mathematics in one of three schedules: fall-winter; winter-spring; fall-spring. It may be noted that only the final schedule allowed a trimester to intervene.

Ross administered a standardized mathematics test (Stanford) to all students at two middle schools. One school served an affluent community where academic achievement is high, and one school served a non-affluent community where academic achievement has been relatively low. The test was administered to students before starting and after completing their year's study of mathematics. Students studying mathematics during the

fall-winter sequence were pretested in September and posttested at the end of the winter trimester. Students studying mathematics during the winter-spring sequence were pretested in September and posttested at the end of the spring semester, as were students in the fall-spring sequence.

Test results are reported in Table 15 separately for the two middle schools and for the three math subtests: applications, concepts, and computation.

Table 15: Effects of a Lapsed Trimester on Mathematics at the Middle School Level

School and Trimester Combination	N	MEAN SCORES (G.E.)								
		Applications			Concepts			Computation		
		Pre	Actual Post	Adj. Post	Pre	Actual Post	Adj. Post	Pre	Actual Post	Adj. Post
(Affluent School)										
Fall-Winter	102	7.31	7.87	7.91	7.18	8.64	8.76	5.59	7.27	7.28
Fall-Spring	98	7.27	8.43	8.50*	7.51	8.82	8.65	5.64	7.65	7.62
Winter-Spring	76	7.52	8.10	7.94	7.26	9.03	9.01	5.58	7.59	7.61
Aggregate		7.37	8.12	(Gain) .75	7.31	8.83	(Gain) 1.52	5.60	7.50	(Gain) 1.90
(Non-Affluent School)										
Fall-Winter	72	6.11	6.64	6.78	5.56	6.30	6.50	4.48	5.37	5.45
Fall-Spring	97	6.13	6.92	7.05	5.68	6.81	6.92	4.48	5.44	5.52
Winter-Spring	91	6.68	7.28	7.01	6.24	7.22	6.91	4.82	5.80	5.63
Aggregate		6.31	6.95	(Gain) .64	5.82	6.79	(Gain) .97	4.59	5.53	(Gain) .94

* Significantly greater than other two adjusted posttests (P = .05).

All the six comparisons of adjusted posttest scores revealed chance fluctuation (not significantly differ) except one: at the affluent middle school, the adjusted posttest measured on mathematics applications of the students skipping the winter trimester were significantly greater than that of students taking their mathematics in sequential trimesters. In the other five chance differences, three favored the students who allowed the winter trimester to lapse, and two favored students who studied mathematics in the winter-spring combination.

Intra-year gains are reflected in the aggregate row separately by school. Students in the affluent community generally gained 1.5 grade equivalents during the year on the total test. Gains by students in the non-affluent community averaged approximately sixty per cent of those obtained by students in the affluent community. Most pre-to-posttest gains at both schools, however, exceeded those generally expected within a year.

Concern: Changes in Teaching Styles

Hypothesis 10. Trimester teachers will utilize significantly more varied classroom activities and instructional media than will teachers in semester classrooms.

In order to gather data concerning classroom procedures, a list containing fourteen probable classroom activities and ten types of instructional media was devised (Exhibit E).

At each of the three trimester schools and the two comparative schools homeroom teachers were instructed to send an outstanding student to a designated place during homeroom period. Upon arriving there, students were given the list described above and instructed to check the activities and media that were utilized in the class period just completed. Students also indicated the amount of time spent at each activity. It should be noted that students were asked to describe, not evaluate, teaching procedures. Neither principal, teachers, nor students had prior knowledge of the purpose of the meeting.

Final tabulations, after eliminating classes conducted by substitute teachers, involved eighty-two semester classes and ninety-seven semester classes. Some duplication probably occurred as a few students may have reported the same class; however, the duplication would have occurred in both the experimental and comparative groups. Total time reported was 4500 minutes and 7760 minutes for the semester and trimester classes respectively.

Results are reported in Table 16.

It may be seen that the proportions of time reported by both groups of students to have been spent at the various instructional activities were generally similar.

Students in trimester classes reported working more at individualized tasks (Activities #6, #11, and #12), spending more time working on class

EXHIBIT E

Classroom Activities Inventory

Instructions to Student:

Please indicate the amount of time that was spent at each activity listed below during your first period today. The total time should sum to 80 minutes.

What was the subject? _____

Who taught it? A _____
(Student teacher) (Regular teacher) (substitute teacher)

	Activity	Minutes Spent
1	Lecture (students mostly listened or took notes)	_____
2.	Lecture combined with student discussion	_____
3.	Class discussion (students doing most of the talking)	_____
4	Question-answer period (short answers, little discussion)	_____
5.	Instructed as part of a small group (fewer than 15)	_____
6	Instructed individually	_____
7.	Worked on class assignment or homework	_____
8.	Took a test or quiz	_____
9.	Worked with a committee on a special task	_____
10.	Worked in class on special project by yourself	_____
11.	Laboratory work	_____
12.	Library research	_____
13.	Students gave reports	_____
14.	Other? _____	_____
	TOTAL	80 minutes

Check below if the listed equipment or material was used.

Textbook	_____	Tape Recorder	_____
Chalkboard	_____	Movie	_____
Overhead Projector	_____	Newspaper	_____
Filmstrip	_____	Record Player	_____
Radio	_____	Posters, Signs	_____

assignments or homework (Activity #7), and more idleness (Activities #16 and #18).

Students in semester classes reported more time spent in activities that called for interacting with the teacher: lecture combined with student discussion (#2); class discussion (#3); and question-answer sessions (#4).

Time spent listening or taking notes while the teacher lectured (#1) was very similar.

Table 16: Classroom Activities* at Trimester and Semester Schools

Classroom Activity	Per Cent of Total Time Spent at Designated Activity	
	Trimester Classes	Semester Classes
1. Lecture (students mostly listened or took notes	11%	10%
2. Lecture combined with student discussion	5%	13%
3. Class discussion (students doing most of the talking)	4%	7%
4. Question-answer period (short answers, little discussion)	7%	10%
5. Instructed as part of a small group (fewer than 15)	2%	1%
6. Instructed individually	4%	2%
7. Worked on class assignment or homework	31%	25%
8. Took a test of quiz	8%	11%
9. Worked with a committee on a special task	2%	2%
10. Worked in class on special project by yourself	2%	5%
11. Laboratory work	8%	3%
12. Library research	2%	-
13. Students gave reports	2%	4%
14. Unclassified	2%	5%
15. Checked tests	1%	1%
16. Idle	3%	-
17. Film or filmstrip	2%	.5%
18. Read silently (novel, paperback, etc.)	2%	.5%

*The final four activities were added to the list after analysis of student responses.

Data in Table 17 show the proportion of students reporting that certain instructional media were utilized.

Table 17: Use of Instructional Media in Trimester and Semester Classes

Media Used More Often in Trimester Classes		Media Used More Often in Semester Classes		Media Equally Used in Trimester and Semester Classes		
					% of Students	
Media	% of Students	Media	% of Students	Media	Tri	Sem
Chalkboard	47%	-	(29%)	-	-	-
Filmstrip	10%	-	(2%)	-	-	-
	(6%)	Overhead Projector	16%	-	-	-
				Textbooks	68%	61%
				Radio	1%	1%
				Tape Recorder	4%	2%
				Film	4%	-
				Newspaper	5%	2%
				Record Player	4%	1%
				Posters	3%	4%

Although differences in the percentages of trimester and semester students reporting the use of the media did not differ greatly, the differences generally favored trimester classes. Thirty-eight per cent of the trimester students reported using media other than textbooks and chalkboards in contrast to twenty-nine per cent of the traditional students.

The greatest variation in use of media occurred from building to building. At one trimester school only two of the students reported using

any media other than textbooks and chalkboard, and at one semester school only two students reported the use of any media other than textbooks, chalkboard, or overhead projector. Students at other schools in the study reported the use of a variety of media as shown by the data in Table 12. This variation could be related to uncontrolled factors such as the availability of the media.

Finding

The hypothesis is rejected. Proportions of time reportedly spent by trimester teachers and semester teachers in various instructional activities or using varied instructional media did not differ significantly.

Concern: Teacher Fatigue and Student Attentiveness

Hypotheses 11 and 12 deal with the concern.

Hypothesis 11. A significant majority of the teachers will assert that the trimester plan has not increased daily fatigue.

Experienced teachers at the three trimester schools were asked about daily fatigue. Their responses are indicated in Table 18. In the first-year assessment, seventy-two per cent of the high school teachers reported increased fatigue due to the lengthened period (1, p. 71).

Table 18: Teacher Fatigue

Question	Teacher Response		
	Decreased Fatigue	No Effect	Increased Fatigue
To what extent, if any, has the lengthened class period affected your total-day fatigue?	15%	40%	45%

Although a slight majority (55 per cent) of the teachers indicated that fatigue was either decreased or unaffected, a sizeable proportion (45 per cent) expressed the feeling that the trimester plan had increased daily fatigue. Neither proportion represented a significant departure from an evenly split population.

In response to a related question (#6), approximately one-half of the teachers reported that the trimester plan had no effect to their enjoyment of teaching. Of the remaining one-half, the majority indicated that the trimester plan had increased their enjoyment of teaching.

Finding

The hypothesis is rejected. Approximately one-half of the teachers continue to report increased fatigue due to the lengthened class period.

Hypothesis 12. A significant majority of the teachers will assert that the trimester plan has not increased student inattentiveness.

Experienced teachers at the three trimester schools were asked, during the winter trimester, about effects on student attentiveness. Their responses are presented in Table 19.

In the first-year assessment, 45 per cent of the high school teachers reported decreased student attentiveness due to the lengthened period (1, p. 71).

Table 19: Student Attentiveness

Question	Teacher Response		
	Decreased Attentiveness	No Effect	Increased Attentiveness
To what extent, if any, has the lengthened period affected the attentiveness of your students?	32%	47%	21%

A significant (P = .05) majority of the teachers (68 per cent) indicated that the lengthened class period did not have a detrimental effect on student attentiveness.

Finding

The hypothesis is accepted. A significant (P = .05) majority of the teachers reported no decrease in student attentiveness.

Concern: Teacher Assessment of the Trimester Plan

Hypothesis 13. A significant majority of the teachers will express preference for the Trimester Plan over the Semester Plan.

As a summary question on the teacher-opinionnaire, teachers were asked to make an overall rating of the trimester plan. In the first-year assessment, almost one-half (44 per cent) of the high school teachers rated the plan unsatisfactory (1, p. 73).

Responses of teachers questioned in the present assessment are presented in Table 20.

Table 20: Teacher-Rating of the Trimester Plan

Instruction	Unsatisfactory	Satisfactory (with important modifcations)	Satisfactory
Rate the Intensified Learning Program	10%	42%	48%

A highly significant (P = .001) majority of teachers (90 per cent) rated the trimester plan generally satisfactory or satisfactory if important modifications were made. Only ten per cent of the teachers rated the plan as unsatisfactory.

Finding

The hypothesis is accepted. Ninety per cent of the teachers surveyed rated the trimester plan satisfactory.

Teacher Comments

Teachers responding to the opinionnaire had an opportunity to make recommendations, or otherwise comment, concerning the trimester plan.

Three recommendations appeared rather frequently. They were:

1) Decrease the amount of time expended in registration and getting classes underway each trimester.

2) Decrease class size.

3) Avoid scheduling a teacher into three classes without an intervening class period.

Other suggestions occasionally made related to ....

.... the break in continuity when students do not continue with a second portion of a two-part course (i.e., Algebra I-II) under the same teacher or when a trimester is allowed to intervene

.... the extra record-keeping involved in mid-period "progress reports"

.... a need to revise courses of study for a better "fit" with the new constraints of the lengthened period and shortened term.

SUMMARY

The present report provides evaluative data relative to the Fort Worth Trimester Plan, previously called the Intensified Learning Plan. The data were gathered primarily from the three high schools in which the trimester plan was newly implemented in 1971-72. Data for comparative purposes were collected from three semester schools. Data were gathered from students and teachers as well as through the use of tests.

The evaluation focused on several concerns that emerged from the first-year assessment: academic achievement, effects of a lapsed trimester between courses, teaching styles of trimester teachers, the extent to which students chose early graduation over an extended curriculum, teacher fatigue, and student attentiveness during the longer period, and overall teacher assessment of the trimester plan.

Results are summarized, by concerns examined, in Table 21.

Table 21: Summary of Findings

Concern and Hypotheses	Findings
Student Academic Achievement	
Hypothesis 1: A significant majority of experienced classroom teachers will express belief that students' academic achievement was maintained under the trimester plan	The hypothesis is rejected. Forty-eight per cent of the teachers expressed the view that students were learning as much under the trimester plan Science and mathematics teachers expressed more concern about student achievement than other teachers Trimester teachers in three courses reported covering units and topics about as well as semester teachers
Hypothesis 2: The distribution of letter grades of trimester students will not differ significantly from those earned by students at the same schools in the previous year under the semester plan.	The hypothesis is rejected. Students under the trimester plan made significantly more A's and more F's than semester students
Hypothesis 3: The mean raw score of trimester students on a general measure of skills and concepts developed in Algebra III will not differ significantly from that attained by similar students under the semester plan.	The hypothesis is accepted. Mean test scores of trimester students and semester students did not differ significantly
Hypothesis 4: The mean score of trimester students on a general measure of skills and concepts developed in Chemistry I will not differ significantly from that attained by similar students under the semester plan.	The hypothesis is accepted. Mean test scores of trimester students and semester students did not differ significantly
Hypothesis 5: The mean raw score of trimester students on a general measure of knowledges and concepts developed in American History I will not differ significantly from that attained by similar students under the semester plan.	The hypothesis is accepted. Mean test scores of trimester students and semester students did not differ significantly

Concern and Hypotheses	Findings
Hypothesis 6: Mean Scholastic Aptitude Test scores of 1969-70 graduates will not significantly differ from those attained by 1971-72 graduates with two years of experience in the trimester plan.	The hypothesis is accepted. Mean SAT scores of trimester students and semester students did not differ significantly
Early Graduation or Extended Curriculum	
Hypothesis 7: The proportion of 1971-72 graduates at the two-year trimester school earning more credits than necessary for graduation will significantly exceed that of 1969-70 graduates.	The hypothesis is rejected. The proportion of graduating trimester and semester students earning extra credits did not differ significantly
Hypothesis 8: The proportion of seniors planning early graduation in 1972-73 will not differ significantly from that graduating early in 1971-72.	The hypothesis is accepted. The proportion of seniors choosing early graduation (after a fall or winter trimester in lieu of taking extra courses) in 1971-72 and that planning early graduation in 1972-73 did not differ significantly
Effects of a Lapsed Trimester	
Hypothesis 9: The amount of time allowed to lapse between courses will not significantly affect the report card grades earned by students in the final term of a continuous four-term subject.	The hypothesis is accepted. Final report card grades of students allowing varying amounts of time to lapse between courses did not differ significantly A similar study at the middle school level concluded, also, that a lapsed winter trimester had no significant effect on students' growth during the year in mathematics skills
Changes in Teaching Style	
Hypothesis 10: Trimester teachers will utilize more varied teaching strategies and media in learning activities than will teachers in comparative semester schools.	The hypothesis is rejected. Proportions of time reportedly spent by trimester and semester teachers in various instructional activities or using various media did not differ significantly

Concern and Hypotheses	Findings
Teacher Fatigue and Student Attentiveness	
Hypothesis 11: A significant majority of teachers will assert that the trimester plan has not increased daily fatigue.	The hypothesis is rejected. Forty-five per cent of the teachers reported increased fatigue due to the trimester plan
Hypothesis 12: A significant majority of teachers will assert that the trimester plan has not increased student inattentiveness.	The hypothesis is accepted. A significant majority of the teachers reported no decrease in student attentiveness due to the trimester plan.
Teacher Assessment of the Trimester Plan	
Hypothesis 13: A significant majority of teachers will rate the trimester plan satisfactory.	The hypothesis is accepted. Ninety per cent of the teachers rated the trimester plan satisfactory. Teacher suggestions for improvement centered around 1) improved registration procedures, 2) smaller class size, and 3) avoidance of three back-to-back assignments

Summary Statements and Discussion

The findings recapitulated in Table 21 are, for the most part, supportive of the trimester plan.

1. Much evidence indicates that academic achievement had been maintained: classroom tests, SAT scores of graduates, and report card grades. However, a substantial proportion of trimester teachers registered uncertainty about student achievement under the plan.

2. The indicators pointed to a present tendency for students to choose early graduation or a minimal classload over an expansion of the number of courses studied and credits earned during their high school career. Conclusions concerning this student option are not likely to be firmed until students enter their senior year after three years of trimester experience, particularly at schools where the majority of students are averaging twelve or more courses each year.

3. Intervening trimesters seem to have had no detrimental effect on high school students' academic progress. This finding was duplicated at the middle school level.

4. The small amount of evidence gathered about teaching strategies indicated that teachers had only moderately adjusted their instructional behavior to the lengthened period. As both teachers and students make this adjustment, related reports of teacher-fatigue and student-inattentiveness may diminish.

5. Most importantly, teachers at schools newly implementing the trimester plan in 1971-72 overwhelmingly expressed confidence in the plan. This favorable assessment may reflect the involvement of these staffs in the initial decision to install the trimester plan. The satisfactory rating given by teachers to the trimester plan, however, was tempered by requests

for more efficient registration procedures,
restrictions on class size, and improved
scheduling of class assignments.

Definite conclusions relative to two major concerns continue to be illusive, and further monitoring seems in order. These areas are:

1) academic achievement,
and 2) student options for early graduation or an expanded education.

BIBLIOGRAPHY

1. Evans, Charles L., "Initial Assessment of the Intensified Learning Plan", Unpublished report of the Fort Worth Independent School District, Department of Research and Evaluation, July, 1971.

2. Fort Worth Independent School District, "Trimester Handbook: The Intensified Learning Program", 1971.

3. Texas Education Agency, "Plan for Evaluating the Quarter System in Texas Public Schools".

APPENDIX A: RESPONSES OF TEACHERS

TEACHER QUESTIONNAIRE: ILP

This questionnaire (for experienced teachers at Polytechnic, Diamond Hill and Northside High Schools) has the intent of gathering evaluative data relative to the Intensified Learning Program. Please respond with optimum accuracy and candor. Do not sign. Return directly to the Research Department, Room 30, East Annex. All responses will be combined for reporting purposes.

Thanks,

Charles L. Evans
Director of Research

Instructions: Respond by encircling the appropriate numeral.

Circle one numeral

1. Are you covering as much of the course content during trimesters as you normally do in semesters?

1	2
No	Yes
39%	61%

Comment _____

_____

2. Do you feel that your students are learning as much and developing as much in depth understanding during the trimesters as they normally do during semesters?

1	2	3
No	Uncertain	Yes
26%	26%	48%

Comment _____

_____

3. Do you have any evidence to support answers to #1 and/or #2? (Test results, unit covered, etc.)

1	2
No	Yes
16%	84%

If yes, what? _____

_____

(It might be of some value if teachers' responses to Questions 1-3 could be analyzed separately for subject fields. If you are sure that doing so will not affect the validity of your responses, you might indicate your teaching field. This is optional.)

_____
Teaching Field

4. To what extent, if any, have you changed your teaching style, techniques, etc. to adjust to the longer class period?

31%	47%	23%
1 Little Change	2 Moderate Change	3 Substantial Change

If 2 or 3 are circled, what changes did you make? _____

_____

5. To what extent, if any, has the lengthened class period affected the general attentiveness of your students?

32%	47%	21%
1 Decreased It	2 No Effect	3 Increased It

Comment _____

_____

6. To what extent, if any, has the ILP affected the extent to which you enjoy teaching?

21%	50%	29%
1 Decreased Enjoyment	2 Balanced Effect	3 Increased Enjoyment

Comment _____

_____

7. To what extent, if any, has the lengthened class period affected your total day fatigue?

15%	40%	45%
1 Decreased It	2 No Effect	3 Increased It

Comment _____

_____

8. Rate the Intensified Learning Program.

10%	42%	48%
1 Unsatisfactory	2 Satisfactory with important modifications	3 Generally satisfactory

Suggested modifications _____

_____

_____

9. Other comments (optional) _____

_____

_____

_____

APPENDIX B

PROPORTIONS OF STUDENTS TAKING DESIGNATED NUMBER OF HOURS IN 1972-73*

Trimester School	Hours Taken in 1972-73					
	Less than 10 Hours	10 Hours	11 Hours	12 Hours	More than 12 Hours	Avg. Hours per Student
T. M. Terrell	-o-	2%	-o-	78%	20%	12.6
Diamond Hill	2%	1%	-o-	89%	7%	12.0
Arlington Hts.	16%	10%	12%	33%	29%	11.6
Dunbar	-o-	47%	-o-	51%	2%	11.1
Polytechnic	13%	24%	17%	24%	22%	11.2
Southwest	18%	21%	20%	26%	16%	10.9
North Side	17%	41%	21%	15%	6%	10.6
Aggregate	11%	22%	13%	38%	16%	11.3

*Source of Data: An informal report from each building principal for the Assistant Superintendent for Secondary Education.